Claims

1. A current sensing unit comprising

at least two Hall sensors (1a, 1b) arranged on a conductor (2),

said Hall sensors (1a, 1b) being arranged such that they detect a magnetic field generated by a current flowing through the conductor (2) equally in absolute amount as well as an interference field equally in absolute amount and detect either the magnetic field or the interference field with the sign being different, respectively.

2. A current sensing unit according to claim 1, wherein

the Hall sensors (1a, 1b) are arranged such that the magnetic field generated by the current flowing through the conductor (2) is detected by both Hall sensors with the sign being different, respectively, and

the output signals of the Hall sensors (1a, 1b) are subtracted from each other.

3. A current sensing unit according to claim 1, wherein

the Hall sensors (1a, 1b) are arranged such that the magnetic field generated by the current flowing through the conductor (2) is detected by both Hall sensors with the signs being equal, and

the output signals of the Hall sensors (1a, 1b) are added.

4. A current sensing unit according to any of the preceding claims, said two Hall sensors (1a, 1b) being arranged such that the conductor (2) extends between the two Hall sensors.

5. A current sensing unit according to any of the preceding claims, comprising a shield (3) mounted around the Hall sensors (1a, 1b) and the conductor (2).

6. A current sensing unit according to any of the preceding claims, said conductor (2) being a circular conductor.

7. A current sensing unit according to any of the preceding claims, said Hall sensors (1a, 1b) having the least possible distance to each other.

8. A current sensing unit according to any of the preceding claims, said Hall sensors (1a, 1b) having the same distance to the conductor (2), respectively.

9. A current sensing unit according to claim 2, wherein a plurality of pairs of Hall sensors (11 and 21, 31 and 41) are provided, wherein the output signals of each pair are subtracted from each other by a subtractor (5, 51 52) and the resulting output signals from the pairs of Hall sensors being added by an adder (15).

10. A current sensing unit according to claim 3, wherein a plurality of pairs of Hall sensors (11 and 21, 31 and 41) are provided, wherein the output signals of each pair are added by an adder and the resulting output signals from the pairs of Hall sensors are added by an adder (15).

11. A current sensing unit according to any of the preceding claims, wherein the output signal of a Hall sensor (11, 21, 31, 41) is supplied to a temperature compensation sensor (12, 22, 32, 42).